

**BY ORDER OF THE CHIEF,
NATIONAL GUARD BUREAU**



MANPOWER STANDARD 23E1A1

28 AUGUST 2003

Manpower Standard

GUIDANCE AND CONTROL

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This Air National Guard Manpower Standard (ANGMS) quantifies the manpower required to accomplish the tasks described in the process oriented description (POD) for varying levels of workload in the 189th Airlift Wing whose mission it is to provide aircrew training for students from each branch of the military that flies the C-130 aircraft and from 27 foreign countries. This standard applies to the 189th Airlift Wing, Little Rock Air Force Base, Arkansas, and encompasses all major processes performed within the Guidance and Control function. It does not apply to any other units. This standard is applicable to peacetime operations only. The Air National Guard (ANG) is authority for the approval and publication of ANG Manpower Standards. Air Force (AF) and ANG directives contain policy and procedural guidance for the operation of Guidance and Control. This standard was developed in accordance with AF Instruction (AFI) 38-201, *Determining Manpower Requirements*, and AF Manual (AFMAN) 38-208, Volume 1, *Air Force Management Engineering Program (MEP) Processes*, and AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP) - Quantification Tools*. Send comments and suggested improvements on AF IMT 847, *Recommendation for Change of Publication*, through channels, to ANG, Management Engineering Branch (ANG/XPME/Operating Location TN [OLTN]), 106 Briscoe Drive, McGhee Tyson Air National Guard Base, TN 37777-6283.

1. STANDARD DATA.

1.1. Approval Date: 28 August 2003.

1.2. Man-hour Data Sources: The Operational Audit (historical record and technical estimate) technique was used to collect/determine man-hour/manpower data.

1.3. Standard Manpower Equation: $Y = 312.0 + 44.26X$.

1.4. Workload Factor.

1.4.1. Title: X= Primary Aircraft Inventory (PAI).

1.4.2. Definition: Number of PAI authorized to support the unit training mission.

1.4.3. Source: USAF Programming Document (PD), Volume 2, maintained by NGB/FM.

1.5. Points of Contact.

1.5.1. Functional: Col John J Samuhel, 189 MX/CC

1.5.2. Manpower: George W. Tatum III, ANG/XPME/OLTN

2. APPLICATION INSTRUCTIONS.

2.1. Equation. Apply the equation in Paragraph 1.3., to determine the required man-hours.

2.2. Man-Hour Availability Factor (MAF). Divide the resulting man-hours by the appropriate MAF/overload factor. The answer, rounded up, will quantify the required manpower.

2.3. Upper and Lower Extrapolation Limits:

2.3.1. $Y_U = 832.565$

2.3.2. $Y_L = 499.539$

3. STATEMENT OF CONDITIONS. The normal hours of operation for this function are 80 hours per two-week period. The alternate work schedule of eight nine hour days, and one eight hour day is the norm. No environmental, equipment, or facility conditions affect this Manpower Standard.

DANIEL JAMES III, Lieutenant General, USAF
Director, Air National Guard

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 38-201 *Determining Manpower Requirements*

AFMAN 38-208, Volume 1, *Air Force Management Engineering Program (MEP)-Process*

AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP)-Quantification Tools*

Abbreviations and Acronyms

AF - Air Force

AFMS - Air Force Manpower Standard

ANG - Air National Guard

ANGMS - Air National Guard Manpower Standard

CAMS - Core Automated Maintenance System

CPR - Cardiopulmonary Resuscitation

HHQ - Higher Headquarters

MAF - Man-Hour Availability Factor

MEP - Management Engineering Program

PAI - Primary Aircraft Authorized

PD - Programming Document

PMEL - Precision Measurement Laboratory

POD - Process Oriented Description

TCTO - Time Compliance Technical Order

UMD - Unit Manpower Document

UTA - Unit Training Assembly

Terms

Air National Guard Manpower Standard (ANGMS). A numbered, specialized publication that quantifies manpower requirements for a work center, it also includes approved variances. See AFI 38-201.

Man-Hour. A unit of measuring work. It is equivalent to one person working at a normal pace for 60 minutes, two people working at a normal pace for 30 minutes, or similar combination of people working at a normal pace for a period of time equal to 60 minutes.

Manpower Standard. The basic tool used to determine the minimum level of manpower required to support a function. It is a quantitative expression that represents a work center's man-hour requirements in response to varying levels of workload.

Process Oriented Description. A format that shows work center responsibilities structured for easy measurement of work categories, tasks and subtasks.

Attachment 2

**PROCESS ORIENTED DESCRIPTION
GUIDANCE AND CONTROL**

Table A2.1. Listing of Functional Processes.

1.	ON-EQUIPMENT MAINTENANCE:
1.1.	MAINTAINS AVIONICS AIRCRAFT SYSTEM AND COMPONENT. Inspects, troubleshoots, repairs, and documents on-equipment maintenance.
1.1.1.	MAINTAINS COMPASS SYSTEM.
1.1.2.	MAINTAINS FLIGHT DIRECTOR SYSTEM.
1.1.3.	MAINTAINS AUTOMATIC FLIGHT CONTROL SYSTEM.
1.1.4.	MAINTAINS FLAP POSITION INDICATING SYSTEM.
1.1.5.	MAINTAINS TRIM POSITION INDICATING SYSTEM.
1.1.6.	MAINTAINS ENGINE TURBINE INLET TEMPERATURE INDICATING SYSTEM.
1.1.7.	MAINTAINS ENGINE TORQUE INDICATING SYSTEM.
1.1.8.	MAINTAINS ENGINE OIL PRESSURE INDICATING SYSTEM.
1.1.9.	MAINTAINS ENGINE TACHOMETER INDICATING SYSTEM.
1.1.10.	MAINTAINS ENGINE OIL TEMPERATURE INDICATING SYSTEM.
1.1.11.	MAINTAINS ENGINE FUEL FLOW INDICATING SYSTEM.
1.1.12.	MAINTAINS ENGINE OIL QUANTITY INDICATING SYSTEM.
1.1.13.	MAINTAINS FUEL QUANTITY INDICATION SYSTEM.
1.1.14.	MAINTAINS PITOT STATIC PRESSURE SYSTEM.
1.1.15.	MAINTAINS ALTIMETER INDICATING SYSTEM.
1.1.16.	MAINTAINS VERTICAL VELOCITY INDICATING SYSTEM.
1.1.17.	MAINTAINS AIRSPEED INDICATING SYSTEM.
1.1.18.	MAINTAINS ALTITUDE REPORTING SYSTEM.

1.1.19.	MAINTAINS GROUND COLLISION AVOIDANCE SYSTEM.
1.1.20.	MAINTAINS FLIGHT DATA RECORDER SYSTEM.
1.1.21.	MAINTAINS PERISCOPIC SEXTANT SYSTEM.
1.1.22.	MAINTAINS HYDRAULIC PRESSURE INDICATING SYSTEM.
1.1.23.	MAINTAINS FUEL PRESSURE INDICATING SYSTEM.
1.2.	PERFORMS INSPECTION: Performs special, phase, and hourly aircraft inspection.
1.2.1.	PERFORMS SPECIAL/ONE TIME INSPECTION.
1.2.2.	PERFORMS PHASE/HOURLY INSPECTION:
1.2.2.1.	PERFORMS AIRCRAFT MAJOR INSPECTION.
1.2.2.2.	PERFORMS AIRCRAFT FIRST MINOR INSPECTION.
1.2.2.3.	PERFORMS HOMESTATION CHECK.
1.2.2.4.	PERFORMS ACCEPTANCE INSPECTION.
2.	OFF-EQUIPMENT MAINTENANCE:
2.1.	MAINTAINS AVIONICS AIRCRAFT SYSTEM AND COMPONENT. Inspects, troubleshoots, and repairs off-equipment.
2.1.1.	MAINTAINS COMPASS SYSTEMS COMPONENT.
2.1.2.	MAINTAINS FLIGHT DIRECTOR SYSTEMS COMPONENT.
2.1.3.	MAINTAINS AUTOMATIC FLIGHT CONTROL SYSTEMS COMPONENT.
2.1.4.	MAINTAINS FLAP POSITION INDICATING SYSTEM COMPONENT.
2.1.5.	MAINTAINS ENGINE TIT INDICATING SYSTEM COMPONENT.
2.1.6.	MAINTAINS ENGINE TORQUE INDICATING SYSTEM COMPONENT.
2.1.7.	MAINTAINS ENGINE OIL PRESSURE INDICATING SYSTEM COMPONENT.
2.1.8.	MAINTAINS ENGINE TACHOMETER INDICATING SYSTEM COMPONENT.
2.1.9.	MAINTAINS ENGINE OIL TEMPERATURE INDICATING SYSTEM COMPONENT.

2.1.10.	MAINTAINS ENGINE FUEL FLOW INDICATING SYSTEM COMPONENT.
2.1.11.	MAINTAINS ENGINE OIL QUANTITY INDICATING SYSTEM COMPONENT.
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2.1.15.	MAINTAINS VERTICAL VELOCITY INDICATING SYSTEM COMPONENT.
2.1.16.	MAINTAINS AIRSPEED INDICATING SYSTEM COMPONENT.
2.1.17.	MAINTAINS ALTITUDE REPORTING SYSTEM COMPONENT.
2.1.18.	MAINTAINS PERISCOPIC SEXTANT SYSTEM COMPONENT.
2.1.19.	MAINTAINS HYDRAULIC PRESSURE INDICATING SYSTEM COMPONENT.
2.1.20.	MAINTAINS FUEL PRESSURE INDICATING SYSTEM COMPONENT.
2.1.21.	MAINTAINS EQUIPMENT, AIRCRAFT & BENCH WIRING/CONNECTOR.
3.	TIME COMPLIANCE TECHNICAL ORDER (TCTO). Performs TCTO maintenance-required on/off the aircraft and completes documentation.
4.	TECHNICAL DATA SUB-ACCOUNT MAINTENANCE. Receives and posts technical data associated with shop system.
5.	PERIODIC MAINTENANCE OF AVIONICS EQUIPMENT IN BASE SUPPLY. Performs functional check or calibration of equipment stored in Base Supply.
6.	CATEGORY II TEST EQUIPMENT. Inspects, troubleshoots, aligns, and calibrates shop test equipment.
7.	BENCH SET AND MOCK-UP MAINTENANCE. Inspects, aligns, and repairs bench set mock-up and sub-system component.
8.	PRESSURE GAGE CALIBRATION. Processes, inspects, and calibrates pressure gage.
9.	AUTOMATED DOCUMENTATION SYSTEM MAINTENANCE. Inputs maintenance actions, on and off equipment, into the CAMS System for time documentation and aircraft history.
10.	HAZARDOUS WASTE PROGRAM MANAGEMENT:

10.1.	PROCESSES HAZARDOUS WASTE. Identifies, labels, contains, and disposes of hazardous waste.
10.2.	MAINTAINS COLLECTION FACILITY. Maintains hazardous waste accumulation point, satellite collection area, and container.
10.3.	MAINTAINS PROTECTIVE EQUIPMENT. Inspects and maintains protective equipment.
11.	SHOP GENERAL SUPPORT. Fabricates, stencils/paints, cleans and/or services.
12.	PRECISION MEASUREMENT LABORATORY (PMEL) RUN. Maintains, updates, tracks equipment due dates and prepares equipment for transportation to calibration site.
13.	BENCH STOCK MAINTENANCE. Inspects, orders, stocks, and issues bench stock.
14.	SPECIAL PLANNING OR SCHEDULING:
14.1.	PREPARES FOR UNIT TRAINING ASSEMBLY (UTA). Performs planning/scheduling and clean up associated with UTA.
14.2.	PREPARES FOR MOBILITY/DEPLOYMENT PARTICIPATION. Maintains proficiency in cardiopulmonary resuscitation (CPR) and Self-Aid Buddy Care.
14.3.	PREPARES FOR SPECIAL PROGRAM. Prepares and performs special program task, duty, and responsibility levied by higher headquarters (HHQ), e.g., Major Air Command, Air National Guard Readiness Center, National Guard Bureau, or host base.
14.4.	TRAVEL. Travels as it relates to the mission for meetings, conferences, workshops, and training.
15.	MANAGEMENT:
15.1.	ADMINISTERS PERSONNEL:
15.1.1.	INDOCTRINATES PERSONNEL. Conducts initial interview, makes original job assignment, and acquaints newly assigned personnel with the work center.
15.1.2.	RATES PERFORMANCE:
15.1.2.1.	PREPARES PERFORMANCE REPORT. Develops performance report by researching, evaluating, drafting, proofreading typed copy, marking boxes, and signing completed report.

15.1.2.2.	INDORSES PERFORMANCE REPORT. Develops endorsement by researching, evaluating, drafting, proofreading typed copy, and signing completed report.
15.1.2.3.	NOMINATES PERSONNEL FOR AWARD. Develops recommendation by researching, evaluating, drafting, proofreading typed copy, and signing completed product.
15.1.2.4.	MONITORS MANAGEMENT IMPROVEMENT PROGRAM. Assists subordinate in developing improvement suggestion, and processes suggestion received for evaluation.
15.1.2.5.	MONITORS TRAINING. Reviews training record and monitors progress of subordinate.
15.2.	SUPERVISES PERSONNEL:
15.2.1.	SCHEDULES PERSONNEL. Schedules subordinate supervisor to provide adequate supervisory coverage in proportion to each shift's workload. Schedules leaves and passes.
15.2.2.	DEVELOPS DIRECTIVE. Develops policy, plan, procedure, operating instruction, checklist, and performance standard by researching, drafting, proofreading typed copies, and signs.
15.3.	DIRECTS AND CONTROLS SUBORDINATE WORK CENTER ACTIVITY:
15.3.1.	MONITORS WORK PRIORITY. Monitors scheduled and unscheduled work priority.
15.3.2.	PROVIDES GUIDANCE. Translates the broad management objectives of the unit commander into technical guidance and direction to subordinate supervisors for work force management.
15.4.	ASSISTS UNIT MOBILITY. Assists in the preparation of the unit mobility plan, identifies mobility resources, and evaluates the unit readiness capability.
15.5.	MONITORS SPECIAL AND RECURRING PROJECT OR PROGRAM.
15.6.	REVIEWS INCOMING AND OUTGOING COMMUNICATION. Reviews incoming distribution for information and necessary action. Reviews outgoing distribution for completeness, accuracy of content, and signs, when necessary.
15.7.	REVIEWS REPORT AND STATISTICAL DATA. Reviews report and statistical data for the purpose of evaluating each work center, and identifies exception or trend that requires management attention. Reviews quality control report, makes comment, and signs, when required.

15.8.	INSPECTS FACILITY. Performs periodic inspection of work center for adequate housekeeping and identifies hazard affecting safety, fire, or security. Identifies equipment and facility condition requiring maintenance or repair.
15.9.	INVESTIGATES ACCIDENT OR INCIDENT. Investigates ground or explosive incident and prepares required report.
16.	INDIRECT. Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are: Administers Civilian, Officer, and Enlisted Personnel; Directs Work Center Activity; Provides Administrative Support; Prepares for and Conducts/Attends Meeting; Administers Training; Manages Supplies; Maintains Equipment; and Performs Cleanup.

Attachment 3

MANPOWER TABLE

A3.1. Standard Manpower Table

Air Force Specialty Title	AFSC	Grade	Manpower Requirement		
Elec Intg Sys Mech Supvr	2A1X0	Civ	1	1	1
Elec Intg Sys Mech	2A1X2	Civ	3	4	5
Total			4	5	6

Note. AFSCs may be adjusted at the discretion of the Commander.